CLAIMS

We Claim:

1. A hydrophobic Chemical mechanical planarization (HCMP) pad comprising:

an organic polymer; and

a metal agent.

2. The HCMP pad of claim 1 wherein said organic polymer is one of polyurethane, a polyurethane, a polyether based material.

3. The HCMP pad of claim 1 wherein said organic polymer is formed of a polyol and di-isocyanate.

4. The HCMP pad of claim 1 wherein said organic polymer is reactive with one of a polyfunctional amine, a diamine, a triamine, a polyfunctional hydroxyl, and a miced functionality hydroxylamine.

5. The HCMP pad of claim 1 further comprising a matrix material selected from a group consisting of a melamine, a polyester, a polysulfone, polyrinyl acetate, and a fluorinated hydrocarbon.

6. The HCMP pad of claim 1 wherein the metal agent includes a metal B-diketonate.

7. The HCMP pad of claim 6 wherein the metal B-diketonate includes one of cobalt, palladium, nickel, zinc, titanium, zirconium, hafnium, and copper.

8. The HCMP pad of claim 6 wherein the metal B-diketonate includes a side group selected from hydrogen, an aryl, a perfluoraryl, an alkyl, a perfluoroalkyl, and a t-butyl group.

9. The HCMP pad of claim 1 for planarization of a semiconductor wager, the planarization of a semiconductor wafer, the planarization to isolate a metal feature in the semiconductor wafer.

10. The HCMP pad of claim 9 wherein said metal agent includes a metal compatible with a metal of the metal feature.

11. The HCMP pad of claim 9 to substantially retain a planarization characteristic during the planarization.

12. The HCMP pad of claim 11 wherein the planarization characteristic is one of shearing, hardness, wearing, cross-linking, water uptake and electrical character.

13. The HCMP pad of claim 9 to avoid substantial uptake of aqueous slurry during the planarization.

14. A chemical mechanical planarization (CMP) material for froming a hydrophobic CMP (HCMP) pad and comprising:

a liquid urethane; and

a metal agent.

15. The CMP material of claim 14 wherein the metal agent is selected to effect cross linking reactions during the forming.

16. The CMP material of claim 14 wherein the metal agent is selected to increase thermal stability.

17. The CMP material of claim 14 wherein the metal agent is a B-diketonate having one of t-butyl and perfluoroalkyl side groups.

18. A method comprising mixing an organic polymer and a metal agent to form a chemical mechanical planarization (CMP) material.

19. The method of claim 18 further comprising:

adding a foaming agent and a curing agent to the CMP material;

reducing pressure around the CMP material; and

heating the CMP material.

20. The method of claim 19 further comprising sawing a hydrophobic CMP pad from a log formed of the CMP material.

21. A method comprising:

providing a hydrophobic chemical mechanical planarization (HCMP) pad; and

planarizing a semiconductor wafer with the HCMP pad.

22. The method of claim 21 wherein the planarizing further comprises:

delivering an aqueous slurry to a surface of the HCMP pad;

moving the HCMP pad in a first direction; and

moving the semiconductor wafer in a second direction different from the first direction.